KNAUSZ Amplification

Guitar Tube Amplifier Model CW5

user manual

May 2010

CONTENTS

Forward 1
Safety Information 2
Front Panel Description 4
Back Panel Description 6
Tube Replacement 8
    Front Door Operation 8
    Tube Types 9
    Ventilation Requirements 9
    Tube Layout 10
Specifications 11
Recommended Settings 12
Troubleshooting Guide 13
Contact Information 16
Index 17

FORWARD

KNAUSZ CW5

The CW5 is a class AB amplifier housed in a handsome handcrafted box joint, cherry stained, solid wood cabinet. There is a sleek brown leather handle on the top of the cabinet for convenient moving of the amp. Rubber feet protect the finish of the cabinet and the underlying speaker cabinet. The size of the amp is very practical and its unique design lends to great tone and dynamics. The tone stack is modeled after the standard Fender Bassman circuit. It has a bell-like chiming cleans that rivals the classic Fender sound. When pushed, its high gain pre-amp built around a pentode stage provides plenty of bite for lead work. The CW5 is perfect for practicing, recording, and playing a small gig.

Safety Information

Please read and follow all of the safety information to prevent personal injury and damage to the equipment:

WARNING Do not expose the amplifier to rain, moisture, or other liquids to prevent damage, fire or electrical shock.

WARNING Unplug the power supply cord from the wall outlet before servicing (including removing and adding vacuum tubes and fuses) to prevent electrical shock.

WARNING Vacuum tubes become very hot when operated. Allow adequate time for the tubes to cool before replacing them to reduce risk of personal injury.

WARNING This amplifier is capable of producing extremely high noise levels which may cause temporary or permanent hearing damage. Use care when setting and adjusting volume levels during use.

WARNING This amplifier should be serviced by a qualified service technician when: the power supply cord or plug is damaged, liquid (including rain) has fallen onto the amplifier, the amplifier does not operate normally, or the

amplifier has been dropped to prevent personal injury or further damage to the amplifier.

CAUTION Only connect the power supply cord to an earth grounded AC receptacle rated for 120 V @ 60 Hz to prevent damage to the amplifier.

CAUTION Do not defeat the safety purpose of the grounding-type plug. If the plug does not fit into the outlet, contact an electrician to replace the obsolete outlet to prevent damage to the amplifier.

CAUTION Do not operate the amplifier without a speaker load to prevent damage to the amplifier.

CAUTION Do not place the amplifier near heat sources such as radiators, heat registers, stoves, or other products that produce heat to prevent the amplifier from overheating.

CAUTION Protect the power supply cord from becoming pinched or abraded.

CAUTION Unplug the power supply cord from the wall outlet when not in use, especially during electrical storms to prevent damage to the amplifier.

CAUTION Clean only with a dry cloth to prevent damage to the amplifier.

Front Panel Description

The front panel is used to control most aspects of the amplifier and is shown in Figure 1. The detailed description of the front panel follows:

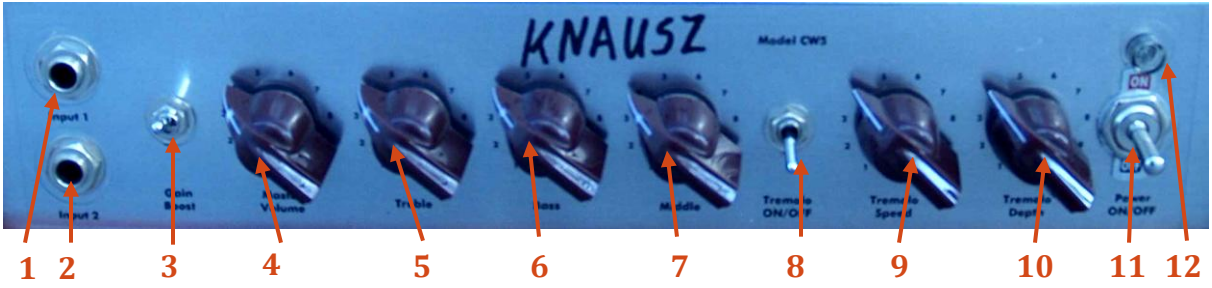


Figure 1: CW5 Front Panel

1.	Input 1	¼ inch jack that receives signals from any standard electric guitar.
2.	Input 2	¼ inch jack that receives signals from any standard electric guitar.
3.	Gain Boost Switch	Two-way toggle switch that doubles the signal amplification in the preamp stage when turned on (up position).

4.	Master Volume	Adjusts the overall loudness of the amplifier.
5.	Treble	Adjusts the high-frequency signal level.
6.	Bass	Adjusts the low-frequency signal level.
7.	Middle	Adjusts the mid-frequency signal level.
8.	Tremolo Switch	Two-way toggle switch that turns the tremolo effect on or off. The tremolo effect rapidly varies the volume of the input signal.
9.	Tremolo Speed	Adjusts the frequency of the tremolo oscillator.
10.	Tremolo Depth	Adjusts the range of the volume in the tremolo effect.
11.	Power Switch	Two-way toggle switch that supplies the mains power to the amp. The Power Indicator (12) will light when the switch is in the ON position.
12.	Power Indicator	Illuminates when the mains power is being supplied to the amplifier.

Back Panel Description

The back panel houses the remaining controls related mostly to power and is shown in Figure 2. The detailed description of the back panel follows:

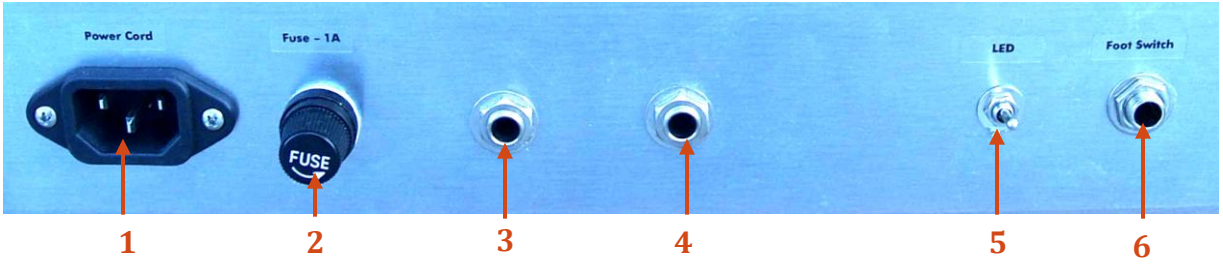


Figure 2: CW5 Back Panel

1.	Power Cord Input	Standard IEC power connector. An AC mains cord containing the appropriate AC plug and ratings for the intended operating voltage is included with the amplifier. The mains cord should be connected to the power cord input before connecting to a suitable AC outlet.
2.	Fuse	Protects the amplifier from electrical faults. Replace the fuse only

		with the same type and rating as listed on the fuse holder.
3.	4 Ohm Output	¼ inch mono phono jack provided for the connection of a 4 Ohm impedance speaker cabinet.
4.	8 Ohm Output	¼ inch mono phono jack provided for the connection of an 8 Ohm impedance speaker cabinet.
5.	LED	Two-way toggle switch that turns on the decorative backlight for enjoying the glowing warm warming glow of the tubes (and to illuminate the rest of the electronics in the amplifier).
6.	Foot Switch	Stereo ¼ inch phono jack provided for the connection of a foot switch to enable the gain boost and tremolo modes to turn on and off remotely. The gain boost and tremolo switches need to be in the off position to enable the foot switch. The foot switch is not included with the amp.

Tube Replacement

Vacuum tubes may need replacement after prolonged use based on personal preference. Many musicians also experiment exhaustively with tubes from varying manufacturers as each tube has a subtly different tone:

Front Door Operation

The front door is made of Plexiglas and is held closed with a magnetic latch. Push on the left side of the door to release the latch and pull the door open from the bottom left corner of the door.

Tube Types

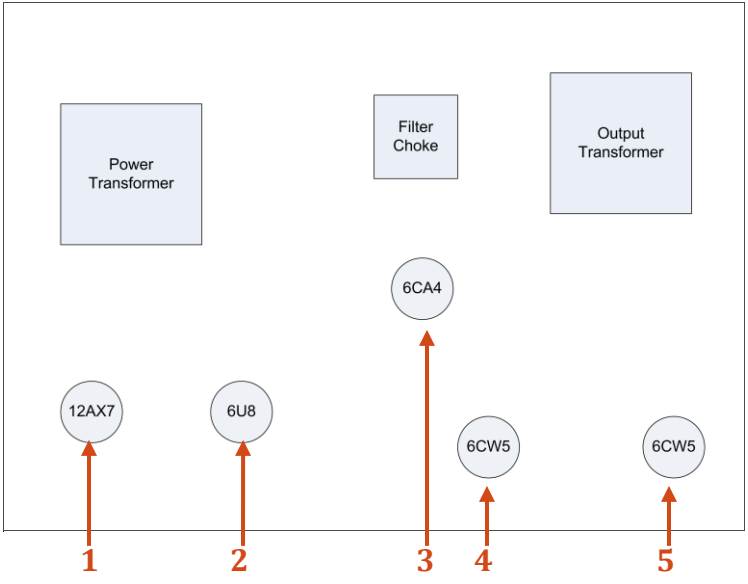
If the sound quality of the amplifier has degraded significantly, the vacuum tubes may be worn and might need replacement. When replacing the vacuum tubes, note the specific tube markings on the original tubes supplied with the amplifier. If you are unsure about the condition of the vacuum tubes, have the amplifier serviced by a qualified service technician.

Ventilation Requirements

Allow for proper ventilation by maintaining at least 6 inches of open air behind the amplifier.

Tube Layout

The tube chart in Figure 3 details the location of all of the tubes in the amplifier:



1.	12AX7	Tremolo and Preamp
2.	6U8	Preamp and Phase Splitter
3.	6CA4	Rectifier
4.	6CW5	Output
5.	6CW5	Output

Figure 3: CW5 Tube Chart

SPECIFICATIONS

Below are the specifications for the model CW5 amplifier:

1.	Model Number	CW5
2.	Rated Power	18 Watts RMS @ 10% THD
3.	Impedances	4 Ohm 8 Ohm
4.	Fuse Type	1 Amp fast blow
5.	Tube Complement	1 x 6CA4 (Rectifier) 2 x 6CW5 (Output) 1 x 12AX7 (Tremolo and Preamp) 1 x 6U8 (Preamp and Phase Splitter)
6.	Dimensions	10 inches high x 13.5 inches wide x 9 inches deep
7.	Weight	18 pounds

Recommended Settings

The following settings can be used to obtain different guitar sound styles. These settings are only a starting point. The tone will depend heavily on the guitar that is being used and the settings on the guitar:

Setting	Bass	Middle	Treble	Gain Boost	Tremolo
Blues	5	6	5	ON	OFF
Jazz	5	3	4	OFF	OFF
Rock	7	3	6	ON	OFF
Surf	6	4	6	ON	ON

Troubleshooting Guide

Below are some common problems and how to correct them:

Problem	Troubleshooting Tip
There is no sound and the amp will not power on	▪ Ensure the power cord is properly connected. ▪ Ensure the fuse is ok and replace it if it is blown. ▪ If the fuse is OK, then try the amp with another properly rated power cord.
The fuse keeps blowing	▪ Check the fuse rating and replace it with the correct rating (1Amp fast blow) if needed. ▪ Remove both output tubes and power on the amp. If the amp powers up without blowing the fuse, then the output tubes may be bad. Replace the output tubes if needed. ▪ If the amp continues to blow the fuse, remove the rectifier tube and power on the amplifier. If the amp powers up without blowing the fuse, then the rectifier tube may be bad. Replace the rectifier tube if needed.

	▪ If the above solutions fail, have the amp serviced by a qualified service technician.
There is no sound, but the amp powers on	▪ Ensure all of the tubes are properly seated. All of the tube filaments should glow in a dark setting. ▪ Ensure the speaker is plugged into the amp and the master volume is turned up past zero. ▪ Try a different speaker cabinet.
The sound is on, but the volume is low	▪ Ensure all of the tubes are properly seated. All of the tube filaments should glow in a dark setting. ▪ Try replacing the tubes with new tubes.
The sound is crackly	▪ Ensure the plugs on the input and output cords are clean. Clean them if needed. ▪ Try a new cord from the guitar to the amp and also from the amp to the speakers. ▪ Try replacing both preamp tubes with new preamp tubes.
The amp hums	▪ Use a guitar with pickups in a hum bucking configuration. ▪ Ensure the wall outlet is wired properly and has a valid

	earth connection. ▪ Try replacing the tubes. Tubes can hum when they get old.
The sound gets distorted too early and there is no full power	▪ Ensure the speaker cabinet is plugged into the correct speaker output jack on the back of the amp. The speaker impedance must match the amplifier output impedance in order to attain maximum power transfer.
The foot switch is not working	▪ Ensure the gain boost and tremolo switches on the front panel are set to the off position when using a foot switch control.
There is smoke or a burning smell	▪ Immediately turn off the amp, unplug the power supply cord from the wall outlet, and have the amp serviced by a qualified service technician.

Contact Information

A Product of:

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(585) 388-7072
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INDEX

1

12AX7 ..... 10, 11

4

4 Ohm Output..... 7, 11

6

6CA4 ..... 10, 11
6CW5 ..... 10, 11
6U8 ..... 10, 11

8

8 Ohm Output..... 7, 11

A

AC Mains Cord ..... *See* Power Supply Cord
AC Receptacle..... 3

B

Back Panel 6
Backlight..... 7
Bass 5
Blues..... 12

C

Cleaning..... 3
Contact Information..... 16
CW5..... 1, 11

D

Dimensions..... 11

E

Electrical
  Faults 6
  Shock 2
  Storms 3

F

Foot Switch 7, 15
Frequency
  High 5
  Low.....5
  Mid 5
Front Door.....8
Front Panel.....4, 15
Fuse.....6, 11, 13

G

Gain Boost Switch ..4, 7, 12, 15
Grounding-Type Plug . *See* Plug

H

Hearing Damage 2
Heat Sources 3
High-Frequency.....5
Hum Bucking 14

I

IEC Power Connector 6
Impedance 7, 11, 15
Input 1 4
Input 2 4

J

Jazz 12

L

LED 7
Low-Frequency 5

M

Magnetic Latch 8
Mains Power 5
Master Volume 5, 14
Middle 5
Mid-Frequency 5
Model Number 11

N

Noise Levels 2

O

Output
- 4 Ohm 7, 11
- 8 Ohm 7, 11
- Vacuum Tubes 10, 11, 13

P

Personal Injury 2, 3
Phase Splitter
- Vacuum Tubes 10, 11

Pickups 14
Plexiglas 8
Plug 2, 3, 14
Power 6, 13, 14
- Cord Input 6
- Full Power 15
- Indicator 5
- Mains 5
- Rated 11
- Supply Cord ... 2, 3, 6, 13, 15
- Switch 5

Preamp 4
- Vacuum Tubes 10, 11, 14

R

Rated Power 11
Rectifier
- Vacuum Tubes 10, 11, 13

Rock 12

S

Safety Information 2
Service Technician .. 2, 9, 13, 15
Settings 12
- Blues 12
- Jazz 12
- Rock 12
- Surf 12

Signal Amplification 4
Sound 9, 13, 14, 15
Sound Styles 12
Speaker 7, 14, 15

Speaker Load 3
Specifications..... 11
Surf 12
Switch
Foot..... 7, 15
Gain Boost..... 4, 7, 12, 15
Power..... 5
Tremolo 5, 7, 12, 15

T

Treble..... 5
Tremolo
Depth 5
Effect 5
Oscillator 5
Speed..... 5
Switch 5, 7, 12, 15
Vacuum Tubes 10, 11
Troubleshooting 13
Tube Chart..... 10
Tube Complement..... 10, 11

V

Vacuum Tubes....2, 8, 9, 10, 14
Glow 7, 14
Output 10, 11, 13
Phase Splitter 10, 11
Preamp.....10, 11, 14
Rectifier.....10, 11, 13
Tremolo.....10, 11
Ventilation 9
Volume
Bass 5, 12
Master Volume.....5, 14
Middle 5, 12
Treble 5, 12

W

Weight.....11